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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,681	03/25/2004	Carl Gustav Figdor	2578-4230.1US	6537

24247 7590 06/11/2007

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ART UNIT	**PAPER NUMBER**
1643	

MAIL DATE	DELIVERY MODE
06/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/808,681	FIGDOR ET AL.	
	Examiner	Art Unit	
	Stephen L. Rawlings, Ph.D.	1643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) *2-5,8,9 and 11-16* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6,7 and 10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 March 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20040325;20040426*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *See Continuation Sheet*.

Continuation of Attachment(s) 6). Other: IDS: 20060202; Notice to Comply.

DETAILED ACTION

1. The election without traverse filed February 20, 2007, is acknowledged and has been entered.

Applicant has elected the invention of Group I, claims 1-4, 6, 7, and 10, insofar as the claims are drawn to a peptide comprising at least part of the amino acid sequence of SEQ ID NO: 9 or composition thereof.

Applicant has further elected the species of the invention of Group I, wherein said peptide is a peptide comprising at least part of the amino acid sequence of SEQ ID NO: 9, wherein the original amino acid at position 2 thereof is substituted by valine.

2. Claims 1-16 are pending in the application. Claims 2-5, 8, 9, and 11-16 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention or species of invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on February 20, 2007.

3. Claims 1, 6, 7, and 10 are currently under prosecution.

Information Disclosure Statement

4. The information disclosures filed March 25, 2004, April 21, 2004, and January 30, 2006, have been considered. An initialed copy of each is enclosed.

Priority

5. Applicant's claim under 35 U.S.C. §§ 120 and/or 365(c) for benefit of the earlier filing date of U.S. Application 09/214,8362, filed October 4, 1999, which is the National stage entry of International Application No. PCT/EP97/03712, filed July 8, 1997, which claims benefit of European Patent Application No. 96201945.1, filed July 11, 1996, is acknowledged.

However, claims 1, 6, 7, and 10 do not properly benefit under §§ 119 and/or 120 by the earlier filing dates of the priority documents claimed, since those claims are rejected under 35 U.S.C. § 112, first paragraph, as lacking adequate written description and a sufficiently enabling disclosure.

To receive benefit of the earlier filing date under §§ 119 and/or 120, the later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application); the disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994). See M.P.E.P. § 201.11.

Accordingly, the effective filing date of claims 1, 6, 7, and 10 is deemed the filing date of the instant application, namely March 25, 2004.

Drawings

6. The drawings set forth as Figures 1-5 are objected to because the figures depict amino acid sequences, which are not identified by sequence identification numbers, either in the figures or in the brief descriptions of figures at pages 18 and 19 of the specification. Sequences appearing in the specification and/or drawings must be identified by a sequence identifier in accordance with 37 C.F.R. 1.821(d); sequence identifiers for sequences appearing in the drawings may appear in the drawings or in the brief description of the drawings.

A replacement drawing sheet, including the correction, is required, if the drawings are objected to. See 37 CFR 1.121(d). However, this ground of objection would be withdrawn, so that a replacement drawing would be not be required, if Applicant were to amend the brief description of the figure at page 4 of the specification to include sequence identification numbers.

Specification

7. The disclosure is objected to for the following reason: The specification contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 C.F.R. § 1.821(a)(1) and (a)(2). Sequences appearing in the specification and/or drawings must be identified by sequence identifier in accordance with 37 C.F.R. 1.821(d). According to 37 CFR § 1.821(a), an unbranched sequence of four or more specifically identified amino acids or an unbranched sequence of ten or more nucleotides must be identified by sequence identification numbers. See MPEP § 2422.01.

In this instance, the sequences depicted in Figures 1-5 are not identified by sequence identification numbers, either in the figures or in the brief descriptions of figures at pages 18 and 19 of the specification.

In addition, there are sequences disclosed at page 21 (paragraph [00110]) and page 22 (paragraph [00112] of the specification, which are also not identified by sequence identification numbers.

Applicant must provide appropriate amendments to the specification or drawings inserting the required sequence identifiers. Sequence identifiers for sequences appearing in the drawings may appear in the drawings or in the brief description of the drawings.

As noted in the attached Notice to Comply, appropriate action correcting this deficiency is required. If necessary to correct the deficiency, Applicant must submit paper and computer-readable copies of a substitute sequence listing, together with an amendment directing its entry into the specification and a statement that the content of both copies are the same and, where applicable, include no new matter.

8. The specification is objected to because the use of improperly demarcated trademarks has been noted in this application. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner that might adversely affect their validity as trademarks. See MPEP § 608.01(v).

An example of such an improperly demarcated trademark appearing in the specification is Ficoll™; see, e.g., page 20, paragraph [00106].

Appropriate correction is required. Each letter of a trademark should be capitalized or otherwise the trademark should be demarcated with the appropriate symbol indicating its proprietary nature (e.g., ™, ®), and accompanied by generic terminology. Applicants may identify trademarks using the "Trademark" search engine under "USPTO Search Collections" on the Internet at http://www.uspto.gov/web/menu/search.html.

Claim Objections

9. Claims 6, 7, and 10 are objected to as being drawn in the alternative to the subject matter of a non-elected invention.

Appropriate correction is required.

10. Claims 1, 6, 7, and 10 are objected to as being drawn to the subject matter of non-elected species of the invention of Group I.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

12. Claims 1, 6, 7, and 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

This is a "written description" rejection.

The considerations that are made in determining whether a claimed invention is supported by an adequate written description are outlined by the published Guidelines for Examination of Patent Applications Under the 35 U.S.C. 112, para. 1, "Written Description" Requirement (Federal Register; Vol. 66, No. 4, January 5, 2001; hereinafter "Guidelines"). A copy of this publication can be viewed or acquired on the Internet at the following address: <http://www.gpoaccess.gov/>.

These guidelines state that rejection of a claim for lack of written description, where the claim recites the language of an original claim should be rare. Nevertheless, these guidelines further state, "the issue of a lack of written description may arise even for an original claim when an aspect of the claimed invention has not been described with sufficient particularity such that one skilled in the art would recognize that the applicant has possession of the claimed invention" (*Id.* at 1105). The Guidelines continue:

> The claimed invention as a whole may not be adequately described if the claims require an essential or critical feature which is not adequately described in the specification and which is not conventional in the art or known to one of ordinary skill in the art. This problem may arise where an invention is described solely in terms of a method of its making coupled with its function and there is no described or art-recognized correlation or relationship between the structure of the invention and its function. A lack of adequate written description issue also arises if the knowledge and level of skill in the art would not permit one skilled in the art to immediately envisage the product claimed from the disclosed process.

With further regard to the proposition that, as *original* claims, the claims themselves provide *in haec verba* support sufficient to satisfy the written description requirement, the Federal Circuit has explained that *in ipsis verbis* support for the claims in the specification does not *per se* establish compliance with the written description requirement:

> Even if a claim is supported by the specification, the language of the specification, to the extent possible, must describe the claimed invention so that one skilled in the art can recognize what is claimed. The appearance of mere indistinct words in a specification or a claim, even an original claim, does not necessarily satisfy that requirement. The disclosure must allow one skilled in the art to visualize or recognize the identity of the subject matter purportedly described. *Eli Lilly*, 119 F.3d at 1568, 43 USPQ2d at 1406.

Regents of the University of California v. Eli Lilly & Co., 119 F.3d 1559, 43 USPQ2d 1398 (Fed. Cir. 1997). *See also:* University of Rochester v. G.D. Searle & Co., 69 USPQ2d 1886 1892 (CA FC 2004).

Thus, an original claim may provide written description for itself, but it must still be an adequate written description, *which establishes that the inventor was in possession of the invention.*

In this instance, the claims are directed to a peptide comprising at least part of the amino acid sequence of SEQ ID NO: 9, wherein an original amino acid at position 2 thereof (i.e., threonine) is substituted with valine and wherein said peptide is immunogenic with lymphocytes directed against metastatic melanomas.

The claims thus encompass, but are not limited to a peptide consisting of the amino acid of SEQ ID NO: 2.

At paragraph [0025] of the published application the specification discloses:

> The term "peptide" refers to a molecular chain of amino acids, does not refer to a specific length of the product and if required can be modified in vivo or in vitro, for example by manosylation, glycosylation, amidation, carboxylation or phosphorylation: thus inter alia polypeptides, oligopeptides and proteins are included within the definition of peptide. In addition, peptides can be part of a (chimeric) protein or can be (part of) an RNA or DNA sequence encoding the peptide or protein.

At paragraph [0026] of the published application the specification further discloses:

> Of course, functional derivatives as well as fragments of the peptide according to the invention are also included in the present invention. Functional derivatives are meant to include peptides which differ in one or more amino acids in the overall sequence, which have deletions, substitutions, inversions or additions.

Accordingly, the claims are directed to a genus of peptides or polypeptides of any length, which vary substantially in both structure and function with the provision that the peptide is immunogenic with lymphocytes directed against metastatic melanomas.

Notably the specification discloses other peptides that do not necessarily comprise at least part of the amino acid sequence of SEQ ID NO: 9, wherein an original amino acid at position 2 thereof (i.e., threonine) is substituted with valine, but which are capable of eliciting an immune response against metastatic melanomas expressing

gp100. Moreover, the prior art teaches numerous examples of peptides that bear no apparent structural similarity to any of the peptides encompassed by the claims, but which are nonetheless still capable of eliciting an immune response against metastatic melanomas expressing gp100.

The fact that such structurally disparate peptides have a common ability to elicit an immune response against metastatic melanomas expressing gp100, despite their dissimilarities, suggests that the ability is not fairly attributed to any one particularly identifying structural feature that is shared by the members of the claimed genus of peptides.

Although the specification describes a species of the claimed genus of peptides, namely a peptide consisting of the amino acid sequence of SEQ ID NO: 2, because the structures of the members of the claimed genus may vary so substantially, this species is not reasonably considered representative of the genus, as a whole.

Furthermore, because the structures of the peptides to which the claims are directed may vary so substantially, it is apparent that there is no one particularly identifying structural feature shared by members of the claimed genus, which correlates with their common ability to elicit an immune response against metastatic melanomas. As such, the skilled artisan could not immediately envision, recognize or distinguish at least a substantial number of the members of the genus of peptides that is regarded as the invention.

It is for these reasons that the disclosure would not reasonably convey to the skilled artisan that Applicant had possession of the claimed invention at the time the application was filed.

Guidelines states, "[p]ossession may be shown in a variety of ways including description of an actual reduction to practice, or by showing the invention was 'ready for patenting' such as by disclosure of drawings or structural chemical formulas that show that the invention was complete, or by describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention" (*Id.* at 1104). Guidelines further states, "[f]or inventions in an unpredictable art, adequate written description of a genus which embraces widely variant species

cannot be achieved by disclosing only one species within the genus" (Id. at 1106); accordingly, it follows that an adequate written description of a genus cannot be achieved in the absence of a disclosure of at least one species within the genus. Because the claims encompass a genus of variant species, an adequate written description of the claimed invention must include sufficient description of at least a representative number of species by actual reduction to practice, reduction to drawings, or by disclosure of relevant, identifying characteristics sufficient to show that Applicant was in possession of the claimed genus. However, factual evidence of an actual reduction to practice has not been disclosed by Applicant in the specification; nor has Applicant shown the invention was "ready for patenting" by disclosure of drawings or structural chemical formulas that show that the invention was complete; nor has Applicant described distinguishing identifying characteristics sufficient to show that Applicant had possession of the claimed invention at the time the application was filed.

In addition, it is aptly noted that the art teaches that one cannot predict whether any given peptide or polypeptide comprising at least part of the amino acid sequence of SEQ ID NO: 2 is capable of eliciting an immune response against certain cancer cells, such as melanoma. Many of the peptides encompassed by the claims are expected to elicit an activation of lymphocytes that react against other cells, not necessarily cancer cells, and not necessarily melanoma cells expressing gp100. Although perhaps immunogenic in other species of animal, some of the peptides encompassed by the claims may not be immunogenic in humans. Again, it is not immediately apparent what structural feature(s) of the members of the claimed genus of peptides, which are capable of eliciting an immune response against metastatic melanoma, distinguish those peptides from others lacking this particular ability.

The Federal Circuit has decided that a patentee of a biotechnological invention cannot necessarily claim a genus after only describing a limited number of species because there may be unpredictability in the results obtained from species other than those specifically enumerated. See *Noelle v. Lederman*, 69 USPQ2d 1508 1514 (CA FC 2004) (citing *Enzo Biochem II*, 323 F.3d at 965; *Regents*, 119 F.3d at 1568).

McCoullough et al. (*ILAR J.* 2005; **46** (3): 230-240) reviews the basic concepts of immune response, as it is relevant to the instant invention. As apparent in light of such a review of these concepts, T-cell receptors expressed by different subsets of T cells recognize peptides displayed by one of the two different classes of MHC molecules. Just as the recognized structural features of the peptides that bind these different classes of MHC molecules are different, the structural features recognized by different T-cell receptors are necessarily different; otherwise, the immune system would not be capable of manifesting such an enormous repertoire of antigen-binding specificities and immune response could not be antigen-specific. Therefore, it follows that different T-cell receptors expressed by different T cells recognize different residues contained within the claimed peptide comprising at least part of the amino acid sequence of SEQ ID NO: 2. Accordingly, the claims are directed to antigens (i.e., polypeptides or proteins) that comprise one or more epitopes recognized by multiple different T-cell receptors having different binding specificities, yet which are necessarily capable of stimulating an immune response against melanoma cells. Those that do so are not immediately or easily distinguished from those incapable of doing so.

As discussed, a large number of the antigens (i.e., polypeptides or proteins) to which the claims are drawn have structures and functions that differ markedly from the structure of gp100. The peptide of SEQ ID NO: 2 is a variant of a peptide fragment of the naturally occurring protein, which is presumably a region of the protein that is antigenic; such regions are often exposed areas on the outside of the antigen, which are accessible to ligands, and occur particularly where there are loops, lacking a rigid tertiary structure. A majority of antibodies produced against an antigen bind to these "immunodominant" regions of the antigen. However, as Bowie et al. (*Science.* 1990; **257**: 1306-1310), for example, teaches, an amino acid sequence encodes a message that determines the shape and function of a protein; and, that it is the ability of these proteins to fold into unique three-dimensional structures that allows them have a particular function, including the function of acting as an antigen. There is no means of predicting whether a protein comprising an amino acid sequence of SEQ ID NO: 2, or any part thereof, is capable of eliciting an immune response against gp100, or a

melanoma cell expressing this protein, as each different protein comprises a different amino acid sequence, each directing the molecule to assume an inherent shape and have an inherent function. Holmes (*Expert Opinion on Investigational Drugs*. 2001, **10**: 511-519) illustrates this fact, teaching that immunizing rabbits with synthetic peptide fragments of an antigen, in each case, generated highly specific antibodies that bound the peptide, but not the full-length antigen (page 513, column 1). Apparently, the peptides assumed a conformation that differed substantially from the corresponding region of the intact antigen, such that different antigenic determinants were present in each. Accordingly, peptide fragments of an antigen cannot reliably substitute for the intact antigen in producing antibodies, because the peptide fragments may not reflect the natural tertiary and quaternary structure of antigen. Similarly, the mere presence of an amino acid sequence of SEQ ID NO: 2 in the amino acid sequence of an antigen cannot reasonably be expected to evoke an immune response against gp100 or a melanoma cell expressing this protein.

Recognizing that the peptide of the amino acid sequence of SEQ ID NO: 2 is a synthetic variant of a naturally occurring fragment of gp100, it is further noted that, in general, the art of synthesizing functional equivalents of naturally occurring proteins is very unpredictable in nature. Guichard et al. (*J. Med. Chem.* 2000; **43**: 3803-3808), for example, teaches they and others were surprised to discover that in the case of a particular MART-1 peptide epitope, which maps to amino acids 27-35 of the native MART-1 antigen, the substitution of alanine by leucine or methionine at the second position ("P2"), although considerably improving binding to HLA-A2, resulted in a dramatic reduction of the peptide's ability to stimulate an immune response (paragraph bridging pages 3803 and 3804).

Although Schirle et al. (*J. Immunol. Methods*. 2001; **257**: 1-16), for example, teaches that several computer algorithms are now available for use in predicting the structures of synthetic peptides that bind MHC molecules, Schirle et al. teaches, "the identified epitopes still have to pass the ultimate test: they have to prove to be useful in the in vivo situation" (page 11, paragraph bridging columns 1 and 2).

Moreover, Anderson et al. (*Tissue Antigens*. 2000 Jun; **55** (6): 519-531) teaches there is poor correspondence between predicted and experimental binding of peptides to class I MHC molecules; see entire document (e.g., the abstract). Andersen et al. teaches, while knowledge of the peptide binding motifs of individual class I MHC molecules permits the selection of potential peptide antigens, there is no strong correlation between actual and predicted binding when using predictive computer algorithms, and therefore the peptide binding assay remains an important step in the identification of cytotoxic T lymphocyte (CTL) epitopes, which cannot be substituted by predictive algorithms (abstract).

Furthermore, Feltkamp et al. (*Mol. Immunol.* 1994 Dec; **31** (18): 1391-1401) teaches, while efficient binding of peptide epitopes to MHC class I molecules is required to elicit an immune response against the peptide epitope or the intact antigen, an increased binding affinity does not consistently and reproducibly relate to a peptide epitope's immunogenicity, i.e., its ability to elicit a peptide- and antigen-specific immune response; see entire document (e.g., the abstract). Feltkamp et al. teaches that other factors, in addition to its binding affinity for an MHC molecule, determine whether a peptide epitope, or analogue thereof, will be able to stimulate an effective immune response; see, e.g., the abstract.

van der Burg et al. (*J. Immunol.* 1996 May 1; **156** (9): 3308-3314) teaches that the immunogenicity of peptides bound to MHC class I molecules depends on the stability of the complex, not just the binding affinity; see entire document (e.g., the abstract). Moreover, van der Burg et al. teaches that the immunogenicity of peptide epitopes can be more accurately predicted by their dissociation rate, as opposed to the MHC class I binding affinity; see, e.g., the abstract.

Accordingly, Applicant is reminded, "generalized language may not suffice if it does not convey the detailed identity of an invention." *University of Rochester v. G.D. Searle Co.*, 69 USPQ2d 1886 1892 (CAFC 2004). In this instance, there is no language that adequately describes with the requisite clarity and particularity the genus of peptides comprising at least part of the amino acid sequence of SEQ ID NO: 2, which are capable of eliciting an immune response against metastatic melanoma. A

description of what a material does, rather than of what it is, does not suffice to describe the claimed invention.

It is aptly noted that the Federal Circuit has decided that a generic statement that defines a genus of substances by *only* their functional activity, i.e., the ability to elicit an immune response against metastatic melanoma, does not provide an adequate written description of the genus. See *The Reagents of the University of California v. Eli Lilly*, 43 USPQ2d 1398 (CAFC 1997). The Court indicated that while applicants are not required to disclose every species encompassed by a genus, the description of a genus is achieved by the recitation of a precise definition of a representative number of members of the genus, such as by reciting the structure, formula, chemical name, or physical properties of those members, rather than by merely reciting a wish for, or even a plan for obtaining a genus of molecules having a particular functional property. The recitation of a functional property alone, which must be shared by the members of the genus, is merely descriptive of what the members of genus must be capable of doing, not of the substance and structure of the members.

Although *Lilly* related to claims drawn to genetic material, the statute applies to all types of inventions. "Regardless whether a compound is claimed *per se* or a method is claimed that entails the use of the compound, the inventor cannot lay claim to the subject matter unless he can provide a description of the compound sufficient to distinguish infringing compounds from non-infringing compounds, or infringing methods from non-infringing methods". *University of Rochester v. G.D. Searle Co.*, 69 USPQ2d 1886 1894 (CAFC 2004). The claimed method depends upon recognizing or identifying a peptide that has the ability to elicit an immune response against metastatic melanoma; without such a peptide, it is impossible to make or use the invention.

Finally, although the skilled artisan could potentially identify screen peptides comprising at least part of the amino acid sequence of SEQ ID NO: 2 to identify those that are capable of eliciting an immune response against metastatic melanoma, it is duly noted that the written description provision of 35 U.S.C § 112 is severable from its enablement provision; and adequate written description requires more than a mere

statement that it is part of the invention and reference to a potential method for isolating it.

> The purpose of the "written description" requirement is broader than to merely explain how to "make and use"; the applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention.* The invention is, for purposes of the "written description" inquiry, *whatever is now claimed.*

Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (CAFC 1991). See *Fiers v. Revel*, 25 USPQ2d 1601, 1606 (CAFC 1993); *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.,* 18 USPQ2d 1016 (CAFC 1991); *University of Rochester v. G.D. Searle Co.*, 69 USPQ2d 1886 1892 (CAFC 2004).

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1, 6, 7, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,500,919 B1 (of record; cited by Applicant).

Claims 1, 6, 7, and 10 are drawn to a peptide (claim 1) or composition thereof (claim 6), wherein the peptide comprises at least part of the amino acid sequence of SEQ ID NO: 2 and wherein said composition further comprises a pharmaceutically acceptable carrier or diluent (claim 7) and one or more compounds, including, for example, an adjuvant (claim 10).

U.S. Patent No. 6,500,919 B1 (Adema et al.) teaches peptides comprising at least part of the amino acid sequence of SEQ ID NO: 2; see entire document (e.g., Figure 4). For example, Adema et al. teaches a peptide consisting of the amino acid sequence of Thr-Trp-Gly-Gln-Tyr-Trp-Gln-Val, which comprises the amino acid sequence Trp-Gly-Gln-Tyr-Trp-Gln-Val, a part of the amino acid sequence of SEQ ID

NO: 2; see, e.g., Figure 4. Adema et al. teaches compositions comprising these peptides, which further comprise a pharmaceutically acceptable carrier or diluent; see, e.g., column 7, lines 57-62. Adema et al. teaches the compositions may also comprise one or more other compounds, including an adjuvant; see, e.g., column 7, lines 64-67. Adema et al. teaches the peptides are immunogenic against metastatic melanoma; see, e.g., the abstract.

Double Patenting

15. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

16. Claims 1, 6, and 7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,500,919 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons:

Claims 1, 6, and 7 are drawn to a peptide or composition thereof, wherein the peptide comprises at least part of the amino acid sequence of SEQ ID NO: 2 and wherein said composition further comprises a pharmaceutically acceptable carrier or diluent.

Claims 1-6 of the patent are drawn to a peptide consisting of the amino acid sequence of SEQ ID NO: 8, SEQ ID NO: 20, or SEQ ID NO: 23 in combination with a pharmaceutically acceptable carrier or diluent, or to an immunogenic carrier or marker that is coupled to said peptide.

Each of the amino acid sequences of SEQ ID NO: 8, SEQ ID NO: 20, and SEQ ID NO: 23, as disclosed by the patent, comprises a part of the amino acid sequence of SEQ ID NO: 2. For example, the amino acid sequence SEQ ID NO: 8 (i.e., Thr-Trp-Gly-Gln-Tyr-Trp-Gln-Val) comprises the amino acid sequence Trp-Gly-Gln-Tyr-Trp-Gln-Val, which is a part of the amino acid sequence of SEQ ID NO: 2.

Although none of claims 1-6 of the patent discloses the peptides are immunogenic against metastatic melanoma, the disclosed peptides and compositions thereof are structurally and materially indistinguishable from the peptide and compositions thereof to which the instant claims are directed. Therefore, absent a showing of any unobvious difference, the peptides and/or compositions disclosed by the patent are deemed the same as the peptides and/or compositions to which the instant claims are directed.

Accordingly, the claimed inventions are so substantially similar that for the most part, the claimed subject matter of the patent anticipates the claimed subject matter of the instant application and any minor differences in the subject matter claimed in the instant application would be seen as an obvious variation of the subject matter claimed in the copending application.

17. Claims 1, 6, and 7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, and 7 of copending Application No. 10/136,145. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons:

Claims 1, 6, and 7 are drawn to a peptide or composition thereof, wherein the peptide comprises at least part of the amino acid sequence of SEQ ID NO: 2 and wherein said composition further comprises a pharmaceutically acceptable carrier or diluent.

Claims 1-6 of the copending application are drawn to a peptide consisting of the amino acid sequence of SEQ ID NO: 21 or SEQ ID NO: 22 in combination with a pharmaceutically acceptable carrier or diluent, or to a compound comprising an immunogenic carrier or marker that is coupled to said peptide.

Each of the amino acid sequences of SEQ ID NO: 21 or SEQ ID NO: 22, as disclosed by the copending application, comprises a part of the amino acid sequence of SEQ ID NO: 2. For example, the amino acid sequence SEQ ID NO: 21 (i.e., Lys-Thr-Trp-Gly-Gln-Tyr-Trp-Gln-Val-Leu) comprises the amino acid sequence Trp-Gly-Gln-Tyr-Trp-Gln-Val, which is a part of the amino acid sequence of SEQ ID NO: 2.

Although none of claims 1-6 of the patent discloses the peptides are immunogenic against metastatic melanoma, the disclosed peptides and compositions thereof are structurally and materially indistinguishable from the peptide and compositions thereof to which the instant claims are directed. Therefore, absent a showing of any unobvious difference, the peptides and/or compositions disclosed by the patent are deemed the same as the peptides and/or compositions to which the instant claims are directed.

Accordingly, the claimed inventions are so substantially similar that for the most part, the claimed subject matter of the copending application anticipates the claimed subject matter of the instant application and any minor differences in the subject matter claimed in the instant application would be seen as an obvious variation of the subject matter claimed in the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

18. No claim is allowed.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen L. Rawlings, Ph.D. whose telephone number is (571) 272-0836. The examiner can normally be reached on Monday-Friday, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms, Ph.D. can be reached on (571) 272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen L. Rawlings/
Stephen L. Rawlings, Ph.D.
Primary Examiner
Art Unit 1643

slr
June 6, 2007

Notice to Comply	Application No.	Applicant(s)	
	10/808,681	FIGDOR ET AL.	
	Examiner	Art Unit	
	Stephen L. Rawlings, Ph.D.	1643	

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).

☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).

☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).

☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."

☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).

☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).

☒ 7. Other: If necessary to correct the deficiency, Applicant must provide substitute copies of the Sequence Listing, together with an amendment directing its entry and a statement that both copies are the same and include no new matter, as further explained below.

Applicant Must Provide:

☐ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".

☐ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.

☐ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

For Rules Interpretation, call (703) 308-4216
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